

Appl. No. 10/035,633
Amdt. dated September 23, 2005
Reply to Office Action of June 23, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-374 (Canceled)

Claim 375 (Currently amended): A method of forming a contact assembly comprising:
fabricating a plurality of contact structures;
providing a substrate comprising an array of electrical connections on a surface of said substrate; and

after said fabricating step and said providing step, attaching ones of said plurality of contact structures to ones of said array of electrical connections.

Claim 376 (Currently amended): The method of claim 375, comprising the further step of pooling said plurality of contact structures into ~~one or more~~ a plurality of groupings prior to said attaching.

Claim 377 (Previously presented): The method of claim 376, comprising the further step of selecting one or more of said groupings of said plurality of contact structures prior to said attaching.

Claim 378 (Previously presented): The method of claim 377, wherein said attaching further comprises sequentially attaching said selected one or more of said groupings of said plurality of contact structures.

Claim 379 (Previously presented): The method of claim 377, wherein said attaching further comprises attaching en masse said selected one or more of said groupings of said plurality of contact structures.

Claim 380 (Previously presented): The method of claim 375, wherein said electrical connections comprise metallic pads.

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Claim 381 (Previously presented): The method of claim 375, wherein said contact structures are resilient.

Claim 382 (Previously presented): The method of claim 375, wherein said fabricating comprises:

forming said contact structures on a sacrificial substrate, and
removing said contact structures from said sacrificial substrate.

Claim 383 (Previously presented): The method of claim 382, wherein said forming comprises sequentially applying a plurality of materials to said sacrificial substrate.

Claim 384 (Previously presented): The method of claim 383, wherein at least one of said materials comprises a patterned layer of material.

Claim 385 (Previously presented): The method of claim 384, wherein said at least one of said materials comprises photoresist.

Claim 386 (Previously presented): The method of claim 383, wherein at least one of said materials composes said contact structures.

Claim 387 (Previously presented): The method of claim 386, wherein a plurality of said materials compose said contact structures.

Claim 388 (Previously presented): The method of claim 383, wherein at least one of said materials composes tips of said contact structures.

Claim 389 (Previously presented): The method of claim 388, wherein at least another of said materials compose wires bonded to said tips.

Claim 390 (Previously presented): The method of claim 389, wherein at least another of said

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materials composes an overcoat at least partially enveloping said wires.

Claim 391 (Previously presented): The method of claim 388, wherein said tips are patterned.

Claim 392 (Previously presented): The method of claim 375, wherein said fabricating comprises applying a patterned layer of material to a sacrificial substrate, said patterned layer comprising openings corresponding to said contact structures.

Claim 393 (Previously presented): The method of claim 392, wherein said fabricating further comprises creating a topographical pattern in said sacrificial substrate at said openings.

Claim 394 (Previously presented): The method of claim 392, wherein said fabricating further comprises forming contact tips of said contact structures in said openings.

Claim 395 (Previously presented): The method of claim 394, wherein said forming contact tips comprises depositing at least one material in said openings.

Claim 396 (Previously presented): The method of claim 394, wherein said fabricating further comprises wire bonding wires at one end to said tips, second ends of said wires being deposited away from said tips.

Claim 397 (Previously presented): The method of claim 396, wherein said fabricating further comprises over coating said wires.

Claim 398 (Previously presented): The method of claim 394, wherein said fabricating further comprises removing said sacrificial substrate.

Claim 399 (Previously presented): The method of claim 375, wherein said substrate composes a probe card assembly.

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Claim 400 (Previously presented): The method of claim 375, wherein said attaching comprises:
bringing ends of said contact structures into contact with said array of electrical connections on said substrate; and
securing said ends of said contacts structures to said array.

Claim 401 (Previously presented): The method of claim 375, wherein said attaching comprises:
inserting ends of said contact structures into recesses in said substrate, said recesses corresponding to said array of electrical connections on said substrate; and
securing said ends of said contacts structures in said recesses.

Claim 402 (Previously presented): The method of claim 375, wherein said attaching comprises permanently attaching ones of said plurality of contact structures to ones of said array of electrical connections.

Claim 403 (Previously presented): The method of claim 375, wherein said attaching comprises metallurgically bonding ones of said plurality of contact structures to ones of said array of electrical connections.

Claim 404 (Currently amended): A method of forming a contact assembly comprising:
providing a substrate comprising an array of electrical connections on a surface of said substrate:
fabricating a plurality of elongate contact structures on a sacrificial substrate in a pattern that corresponds to at least a portion of said array of electrical connections;
after said providing step and said fabricating step, attaching ones of said plurality of contact structures to ones of said array of electrical connections; and
removing said contact structures from said sacrificial substrate.

Claim 405 (Previously presented): The method of claim 404, wherein said contact structures are resilient.

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Claim 406 (Previously presented): The method of claim 404, wherein said forming comprises sequentially applying a plurality of materials to said sacrificial substrate.

Claim 407 (Previously presented): The method of claim 406, wherein at least one of said materials comprises a patterned layer of material.

Claim 408 (Previously presented): The method of claim 407, wherein said at least one of said materials comprises photoresist.

Claim 409 (Previously presented): The method of claim 407, wherein at least one of said materials composes said contact structures.

Claim 410 (Previously presented): The method of claim 409, wherein a plurality of said materials compose said contact structures.

Claim 411 (Previously presented): The method of claim 406, wherein at least one of said materials composes tips of said contact structures.

Claim 412 (Previously presented): The method of claim 411, wherein at least another of said materials compose wires bonded to said tips.

Claim 413 (Previously presented): The method of claim 412, wherein at least another of said materials composes an overcoat at least partially enveloping said wires.

Claim 414 (Previously presented): The method of claim 411, wherein said tips are patterned.

Claim 415 (Previously presented): The method of claim 404, wherein said fabricating comprises applying a patterned layer of material to a sacrificial substrate, said patterned layer comprising openings corresponding to said contact structures.

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Claim 416 (Previously presented): The method of claim 415, wherein said fabricating further comprises creating a topographical pattern in said sacrificial substrate at said openings.

Claim 417 (Previously presented): The method of claim 416, wherein said fabricating further comprises forming contact tips of said contact structures in said openings.

Claim 418 (Previously presented): The method of claim 417, wherein said forming contact tips comprises depositing a material in said openings.

Claim 419 (Previously presented): The method of claim 418, wherein said forming contact tips comprises depositing a plurality of materials in said openings.

Claim 420 (Previously presented): The method of claim 417, wherein said fabricating further comprises wire bonding wires at one end to said tips, second ends of said wires being deposited away from said tips.

Claim 421 (Previously presented): The method of claim 420, wherein said fabricating further comprises over coating said wires.

Claim 422 (Previously presented): The method of claim 404, wherein said substrate composes a probe card assembly.

Claim 423 (Previously presented): The method of claim 404, wherein said attaching comprises:
bringing ends of said contact structures into contact with said array of electrical connections on said substrate; and
securing said ends of said contacts structures to said array.

Claim 424 (Previously presented): The method of claim 404, wherein said attaching comprises:
inserting ends of said contact structures into recesses in said substrate, said recesses corresponding to said array of electrical connections on said substrate; and
securing said ends of said contacts structures in said recesses.

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Claim 425 (New): The method of claim 404, wherein said fabricating step comprises fabricating said plurality of contact structures separate and apart from said substrate and said electrical connections.

Claim 426 (New): The method of claim 425, wherein following said fabricating step and prior to said attaching step said plurality of contact structures are not attached to said electrical connections.

Claim 427 (New): The method of claim 375, wherein said fabricating step comprises fabricating said plurality of contact structures separate and apart from said substrate and said electrical connections.

Claim 428 (New): The method of claim 427, wherein following said fabricating step and prior to said attaching step said plurality of contact structures are not attached to said electrical connections.